Application No.	Applicant(s)
09/457,765	MOODY ET AL.
Examiner	**Art Unit**
Michael V. Meller	1651

Office Action Summary

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
4)☐ Interview Summary (PTO-413) Paper No(s) _____
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other

DETAILED ACTION

Continued Prosecution Application

The request filed on 10/12/2001 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/457,765 is acceptable and a CPA has been established. An action on the CPA follows.

Specification

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:
(1) if a machine or apparatus, its organization and operation;
(2) if an article, its method of making;
(3) if a chemical compound, its identity and use;
(4) if a mixture, its ingredients;
(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

The abstract of the disclosure is objected to because the abstract contains run-on sentences, fragment sentences and is not a single paragraph. Correction is required. See MPEP § 608.01(b).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is confusing since it is not clear what stage of the reaction the amounts of "6-APA" and "ampicillin" are required in i), i.e. the beginning, the end, or between the beginning and end. This also applies to amounts or ratios in ii and iii and claims 2-4. To measure the "total concentration of 6-APA and ampicillin combined" is confusing since the process is supposed to yield ampicillin. How can one measure the amount of reactant (6-APA) and product (ampicillin) at the same time, for example ? Claim 1 is also confusing since in iii) , it is clear that phenylglycine and 6-APA are added, thus the use of "added" is not needed.

In claim 7, it appears that "the" should be inserted before "phenylglycine" since this would give it proper antecedant basis. Without "the" insert, the claim is confusing.

Further, claims 9 and 10 are confusing since it is not clear at what point in the reaction the pH or temperature is to be lowered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 92/01061 ('061) taken with WO 95/03420 ('420).

'061 teaches a beta-lactam such as ampicillin which is produced by the acylation of 6-APA with a phenylglycine derivative in the presence of an enzyme, see the claims and the examples. Examples 8 and 9 show 136.6 mM and 190 mM of ampicillin used. Since claim 16 shows that 50 to 750 mM of amino beta-lactam (6-APA) can be used thenthe total concentration of 6-APA and ampicillin can be greater than 250 mM. Further, the concentration of 6-APA can be lower than 300 mM as seen in claim 16. In claims 16 and 21 the concentrations of 6-APA and an acylating agent (D-phenylglycine or a derivative thereof) are given. Thus, the ratio of phenylglycine derivative to 6-APA could be 500mM over 500 mM which would be a ratio of 1.0.

'061 does not teach that the phenylglycine derivative is metered in the form of a solution of D-phenylglycine amide . ½ H_2SO_4 in water.

'420 teaches the use of D-phenylglycine amide . ½ H_2SO_4 in water to produce a beta-lactam derivative such as ampicillin, see page 6.

It would have been obvious to use D-phenylglycine amide . ½ H_2SO_4 in water in the process of '061 since '420 is producing the same substance (ampicillin) with the

same reactants (phenylglycine derivative) and 6-APA as '061. Since it is merely the routine choice of the artisan in an effort to optimize the results to use well known reactants together to produce a superior product, then it would be obvious to use such a D-phenylglycine amide . ½ H_2SO_4 in water in the process of '061, absent evidence to the contrary. Further, to meter in the D-phenylglycine amide . ½ H_2SO_4 in water also would have been obvious since metering would have expected to maintain a constant amount of the D-phenylglycine amide . ½ H_2SO_4 in water in the reaction mixture to make the process more efficient. Also, to lower the temperature and pH of the reaction mixture also would be obvious in an effort to optimize the results. Since such conditions are clearly within the purview of the skilled artisan, they are seen as merely a choice of the artisan in an effort to maximize the desired effects of the invention.

Applicant has argued that '061 nowhere describes a solution concentration of 6-APA lower than 300 mM, but applicant is directed to page 5 of that document where it is clearly taught that 6-APA is used in a range from about 50 to about 750 mM.

Applicant also argues that '061 is silent on the benefits in conversion seen with a phenylglycine derivative/APA ratio of less than 2.5, but it is clear that the reference clearly encompasses such a ratio for the above reasons. The reference does not have to state such a benefit since the ratio is clearly taught by the reference. Applicant suggests that since the reference teaches higher ratios that one of skill in the art would not look to this reference for lower ratios, but again the reference does teach such lower ratios. The law is clear that one of ordinary skill in the art must be motivated, which one

would be since it is clearly taught in '061 that such concentrations were contemplated and used.

Applicant makes comments regarding '420 but these comments were made when '420 was used as a primary reference. Since '420 has been used now as a secondary reference, a source for only a D-phenylglycine amide . ½ H_2SO_4 in water used in the same process as '061 teaches, then the reference is properly used.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V. Meller whose telephone number is 703-308-4230. The examiner can normally be reached on Monday thru Friday: 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on 703-308-4743. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-0294 for regular communications and 703-308-0294 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Michael V. Meller
Examiner
Art Unit 1651

US 094577650GP1

Creation date: 29-08-2003
Indexing Officer: MKAHSAY - MULU KAHSAY
Team: OIPEBackFileIndexing
Dossier: 09457765

Legal Date: 09-05-2002

No.	Doccode	Number of pages
1	C.AD	1

Total number of pages: 1

Remarks:

Order of re-scan issued on .....